

WHAT IS CLAIMED IS:

1. A blood collection apparatus comprising:
a blood collection tube defining an inner surface; and
a gel being selectively disposed along the inner surface.
2. A blood collection apparatus as recited in claim 1, wherein the gel is configured as a barrier.
3. A blood collection apparatus as recited in claim 1, wherein the gel is selectively disposed along a central portion of the inner surface.
4. A blood collection apparatus comprising:
a blood collection tube defining a central inner surface; and
a gel disposed along a portion of the central inner surface, the portion of the central inner surface defining a predetermined first limit and a predetermined second limit.
5. A blood collection apparatus as recited in Claim 4, further comprising a dispensing apparatus configured to dispense the gel along the portion of the central inner surface.
6. A blood collection apparatus as recited in Claim 5, wherein the dispensing apparatus includes a positive displacement meter configured for dispensing the gel.
7. A blood collection apparatus as recited in Claim 5, wherein the dispensing apparatus includes a nozzle configured for dispensing the gel.
8. A blood collection apparatus as recited in Claim 7, wherein the nozzle defines at least one opening configured to dispense the gel.

9. A blood collection apparatus as recited in Claim 8, wherein the at least one opening is disposed about at least a portion of a circumference defined by the nozzle.
10. A blood collection apparatus as recited in Claim 8, wherein the nozzle defines a plurality of openings.
11. A blood collection apparatus as recited in Claim 4, wherein the blood collection tube includes a non-stick coating selectively disposed on the central inner surface.
12. A blood collection apparatus as recited in Claim 4, wherein the predetermined first limit is based on at least one dimension of the blood collection tube.
13. A blood collection apparatus as recited in Claim 4, wherein the predetermined second limit is based on at least one dimension of the blood collection tube.
14. A blood collection apparatus as recited in Claim 4, wherein the predetermined first limit is based on the following formula: predetermined first limit = $X \cdot C_{LL}$, where X is a linear dimension of the blood collection tube and C_{LL} is a constant based on at least one factor of the blood collection apparatus.
15. A blood collection apparatus as recited in Claim 14, wherein the constant C_{LL} is equal to a numerical value in a range of numerical values between 0.30 and 0.70.
16. A blood collection apparatus as recited in Claim 4, wherein the predetermined second limit is based on the following formula: predetermined second limit = $X \cdot C_{UL}$, where X is a linear dimension of the blood collection tube and C_{UL} is a constant based on at least one factor of the blood collection apparatus.
17. A blood collection apparatus as recited in Claim 16, wherein the constant C_{UL} is equal to a numerical value in a range of numerical values between 0.30 and 0.70.

18. A blood collection apparatus as recited in Claim 4, wherein the gel is disposed along the portion of the central inner surface to prevent migration of the gel relative thereto during centrifuging of the blood collection tube.

19. A blood collection apparatus comprising:
means for collecting a sample of blood defining a central inner surface; and
a gel disposed along a predetermined portion of the central inner surface.

20. A blood collection apparatus as recited in Claim 19, further comprising dispensing means configured to dispense the gel along the predetermined portion of the central inner surface.

21. A method for separating a sample of blood into portions including a light serum portion and a heavy cellular portion, the method comprising the steps of:

providing a blood collection tube defining a central inner surface;
providing a dispensing apparatus configured to dispense gel along a portion of the central inner surface, the portion of the central inner surface defining a predetermined first limit and a predetermined second limit;

dispensing the gel via the dispensing apparatus along the portion of the central inner surface;

providing a sample of blood within the blood collection tube; and
manipulating the blood collection tube to separate the light serum portion of the blood sample from the heavy cellular portion of the blood sample.

22. A method for separating a sample of blood as recited in Claim 21, wherein the step of manipulating includes centrifuging the blood collection tube.

23. A method for separating a sample of blood as recited in Claim 22, wherein the step of dispensing includes the gel being dispensed along the portion of the central inner surface to prevent migration of the gel relative thereto.

24. A method for separating a sample of blood as recited in Claim 21, wherein prior to the step of dispensing, the method further comprises the step of determining the predetermined first limit.

25. A method for separating a sample of blood as recited in Claim 21, wherein the step of providing the dispensing apparatus includes the predetermined first limit being determined based on the following formula: $\text{predetermined first limit} = X \cdot C_{LL}$, where X is a linear dimension of the blood collection tube and C_{LL} is a constant based on at least one factor of the method.

26. A method for separating a sample of blood as recited in Claim 25, wherein the step of providing the dispensing apparatus includes the constant C_{LL} being equal to a numerical value in a range of numerical values between 0.30 and 0.70.

27. A method for separating a sample of blood as recited in Claim 21, wherein prior to the step of dispensing, the method further comprises the step of determining the predetermined second limit.

28. A method for separating a sample of blood as recited in Claim 21, wherein the step of providing the dispensing apparatus includes the predetermined second limit being determined based on the following formula: $\text{predetermined second limit} = X \cdot C_{UL}$, where X is a linear dimension of the blood collection tube and C_{UL} is a constant based on at least one factor of the method.

29. A method for separating a sample of blood as recited in Claim 28, wherein the step of providing the dispensing apparatus includes the constant C_{UL} being equal to a numerical value in a range of numerical values between 0.30 and 0.70.

30. A blood collection apparatus for separating a sample of blood into portions including a light serum portion and a heavy cellular portion, the blood collection apparatus comprising:

a blood collection tube having an open end, a closed end and defining a central inner surface therebetween, at least a portion of the central inner surface having a non-stick coating, the blood collection tube being configured for receipt of a volume of a blood sample; and

a dispensing apparatus having a nozzle disposed at a distal end thereof, the nozzle including a plurality of openings disposed about a circumference defined by the nozzle, said plurality of openings configured to dispense gel along a portion of the central inner surface, the portion of the central inner surface defining a predetermined first limit and a predetermined second limit;

wherein the predetermined first limit is based on the following formula: predetermined first limit = $X \cdot C_{LL}$, where X is a linear dimension of the blood collection tube and C_{LL} is a constant based on at least one factor of the blood collection apparatus, and the predetermined second limit is based on the following formula: predetermined second limit = $X \cdot C_{UL}$, where C_{LL} is a constant based on at least one factor of the blood collection apparatus.